

WHAT IS CLAIMED IS:

1. A PCR apparatus comprising:
 - a specimen chamber;
 - a heating conduit which communicates with the specimen chamber;
 - a cooling conduit which communicates with the specimen chamber;
 - a pumping device for pumping a gaseous or liquid medium through the heating conduit and the cooling conduit to the specimen chamber;
 - a heating device, disposed separately from the cooling conduit, which communicates with the heating conduit and is operable to heat the medium located in the heating conduit; and
 - a mixing device which communicates with the heating conduit and with the cooling conduit such that a ratio between a volume of the medium flowing per unit of time through the heating conduit and a volume of the medium flowing per unit of time through the cooling conduit to the specimen chamber is adjustable by the mixing device.
2. The PCR apparatus as in claim 1, wherein the medium is ambient air.
3. The PCR apparatus of claim 2, wherein the cooling conduit is opened such that the ambient air flows in.
4. The PCR apparatus as in claim 1, further comprising a temperature sensor to measure a temperature in the specimen chamber.
5. The PCR apparatus as in claim 4, wherein the temperature sensor is an infrared detector.
6. A PCR apparatus comprising:
 - a specimen chamber;
 - a heating conduit which communicates with the specimen chamber;
 - a cooling conduit which communicates with the specimen chamber;
 - a pumping device for pumping a gaseous or liquid medium through the heating conduit and the cooling conduit to the specimen chamber;

a heating device, disposed separately from the cooling conduit, which communicates with the heating conduit and is operable to heat the medium located in the heating conduit; and

a mixing device, disposed in one of the cooling conduit and the heating conduit, such that a ratio between a volume of the medium flowing per unit of time through the heating conduit and a volume of the medium flowing per unit of time through the cooling conduit to the specimen chamber is adjustable by the mixing device.

7. The PCR apparatus as in claim 6, wherein the medium is ambient air.

8. The PCR apparatus of claim 7, wherein the cooling conduit is opened such that the ambient air flows in.

9. The PCR apparatus as in claim 6, further comprising a temperature sensor to measure a temperature in the specimen chamber.

10. The PCR apparatus as in claim 9, wherein the temperature sensor is an infrared detector.

11. A PCR apparatus comprising:

a specimen chamber;

a heating conduit which communicates with the specimen chamber;

a cooling conduit which communicates with the specimen chamber;

a pumping device for pumping a gaseous or liquid medium through the heating conduit and *or* the cooling conduit to the specimen chamber;

a heating device, disposed separately from the cooling conduit, which communicates with the heating conduit and is operable to heat the medium located in the heating conduit; and

a mixing device which communicates with the heating conduit and with the cooling conduit, such that a ratio between a volume of the medium flowing per unit of time through the heating conduit and a volume of the medium flowing per unit of time through the cooling conduit to the specimen chamber is adjustable by the mixing device,

wherein the mixing device includes a valve, which varies one of the volume of the medium flowing through the cooling conduit and the volume of the medium flowing through the heating conduit.

12. The PCR apparatus as in claim 11, wherein the medium is ambient air.

13. The PCR apparatus as in claim 12, wherein the cooling conduit is opened such that the ambient air flows in.

14. The PCR apparatus as in claim 11, further comprising a temperature sensor to measure a temperature in the specimen chamber.

15. The PCR apparatus as in claim 14, wherein the temperature sensor is an infrared detector.